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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT PAPER NUMBER

3677

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/691,921

Applicant(s)

COUILLAIS ET AL.

Examiner

Jeffrey Sharp

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-15 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,16,17 and 20 is/are rejected.
- 7) ☐ Claim(s) 3,5-8,18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Status of Claims***

- [1] Claims 1-20 are pending

### ***Claim Objections***

- [2] Claim 19 is objected to because of the following informalities:

Line 3 reads ‘annular surfaces surrounding said end portions having radial grooves’ and should read ‘annular surfaces having radial grooves surrounding said end portion.’ As Claim 19 currently reads, the end portions have radial grooves, which is inconsistent with the specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

- [3] (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[4] For the purposes of this examination, the descriptor “self-attaching female fastener element” (Claims 1-15) is limiting in structure only in that the female element must have a bore, hole, or depression, and that the element must be capable of fastening in any manner whether by deformation, force, torque, impact, adhesive, weld, etc...

It is to be noted that the applicant does not require the ‘self-attaching female fastening element’ to communicate with a sheet panel or the like; thus, the prior art is not limited to elements pertaining specifically to clinch/pierce-type nut applications. Furthermore, a ‘self-attaching female fastening element’ is not treated as a ‘nut’, and thus does not invalidate prior art lacking internal threads. The examiner suggests a more meaningful descriptor ‘double-sided female clinch-type fastener for engagement with a panel surface.’

Also, it is to be noted that ‘symmetrical *about* a plane perpendicular to a longitudinal axis of said bore’ (Claim 2 Lines 2-3) is not an equivalent to ‘symmetrical *along* and *about* a longitudinal axis of said bore.’

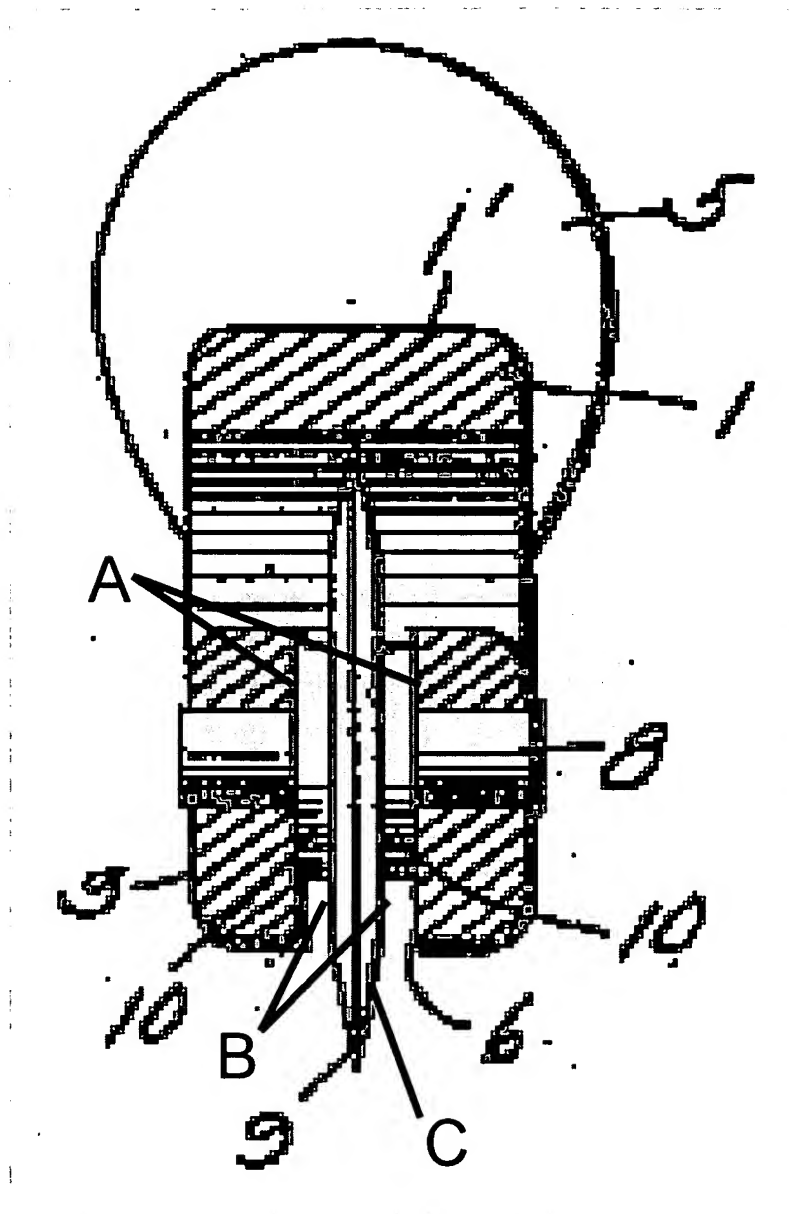
[5] Further, no mention is made as to the perpendicularity of the radial flange portion with respect to the body portion in Claim 1. The word ‘generally parallel’ in Claim 1 Line 5 is not interpreted as an equivalent to ‘parallel’.

Even further, the term ‘inwardly tapered annular outer peripheral portion’ (Claim 1 Lines 5-6) includes the possibility of only a single tapered portion (i.e., two tapered portions are shown in the submitted drawings). The ‘inwardly tapered annular outer peripheral portion’ need not be continuous, as a ‘portion’ of an annular entity may be any part of an annular entity.

Lastly, for the purposes of this examination, the phrases ‘radially outwardly inclined generally frustoconical surface’ (Claim 9 Line 4) and ‘outer surface[] tapered radially outwardly from said radial flange portion to said opposed ends’ (Claim 3 Lines 2-3) are treated as equivalents in light of the instant specification and drawings. Both phrases have been interpreted as ‘increasing in diameter from the flange abutment with the body portion towards the opposed ends’, as this gives symmetry ‘about a plane perpendicular to a longitudinal axis of said bore’.

[6] Claims 1, 2, and 4 rejected under 35 U.S.C. 102(b) as being anticipated by Foss US-1,363,104. Foss teaches an element inherently capable of fastening in the manner disclosed in the instant specification, comprising:

a body portion (10) having opposed ends (A) and a bore (hole in which pin 8 travels through) extending through said body portion (10) through said opposed ends (A);  
and a radial flange portion (9) integral with said body portion (10) midway between said opposed ends (A) having generally parallel planar annular surfaces (B) on opposed sides of said radial flange portion (9) surrounding said body portion (10) and an inwardly tapered annular outer peripheral portion (C).



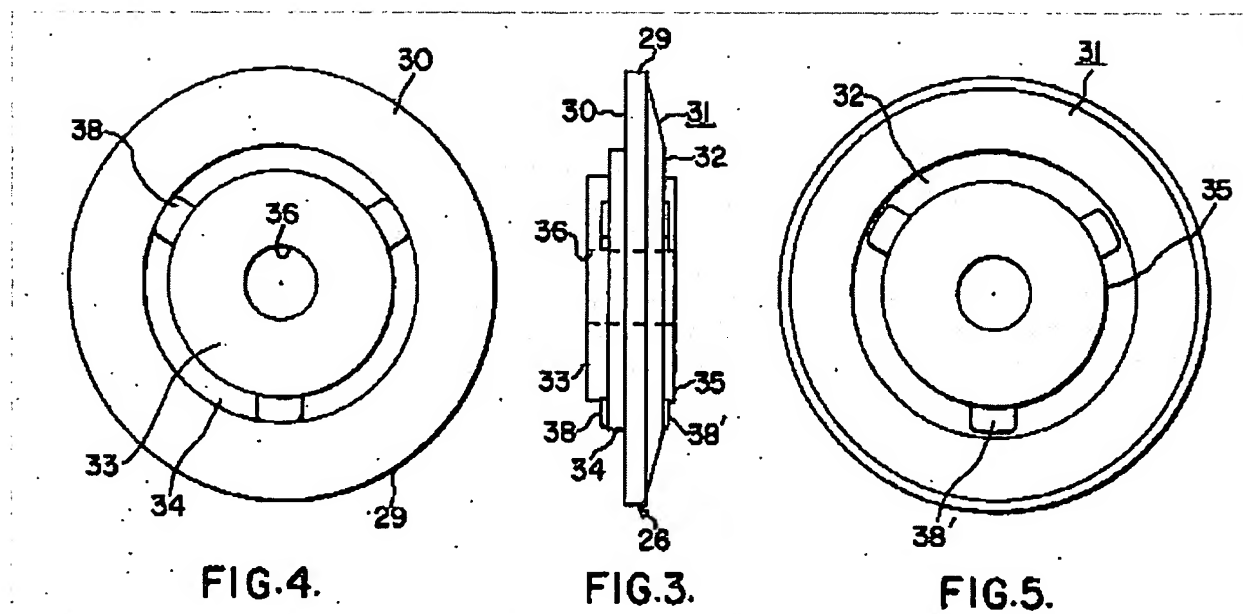
US-1,363,104 Foss Figure 2 shows an identical structure to the instant claims 1, 2, and 4  
(element 9 integral with 10 supported by pin 8)

As for Claim 2, the element 'is symmetrical about a plane perpendicular to a longitudinal axis of said bore.'

As for Claim 4, the element's 'outer peripheral portion of said radial flange portion is generally circular.'

[7] Claims 1, 2, and 4 rejected under 35 U.S.C. 102(b) as being anticipated by Lee US-3,301,942. Lee teaches an element inherently capable of fastening in the manner disclosed in the instant specification, comprising:

a body portion (26) having opposed ends (33,35) and a bore (36) extending through said body portion (26) through said opposed ends (33,35);  
and a radial flange portion (29) integral with said body portion (26) midway between said opposed ends (33,35) having generally parallel planar annular surfaces (30,32) on opposed sides of said radial flange portion (29) surrounding said body portion (26) and an inwardly tapered annular outer peripheral portion (31).



US-1,363,104 Lee Figures 3-5 show an identical structure to the instant claims 1, 2, and 4.

As for Claim 2, the element 'is symmetrical about a plane perpendicular to a longitudinal axis of said bore.'

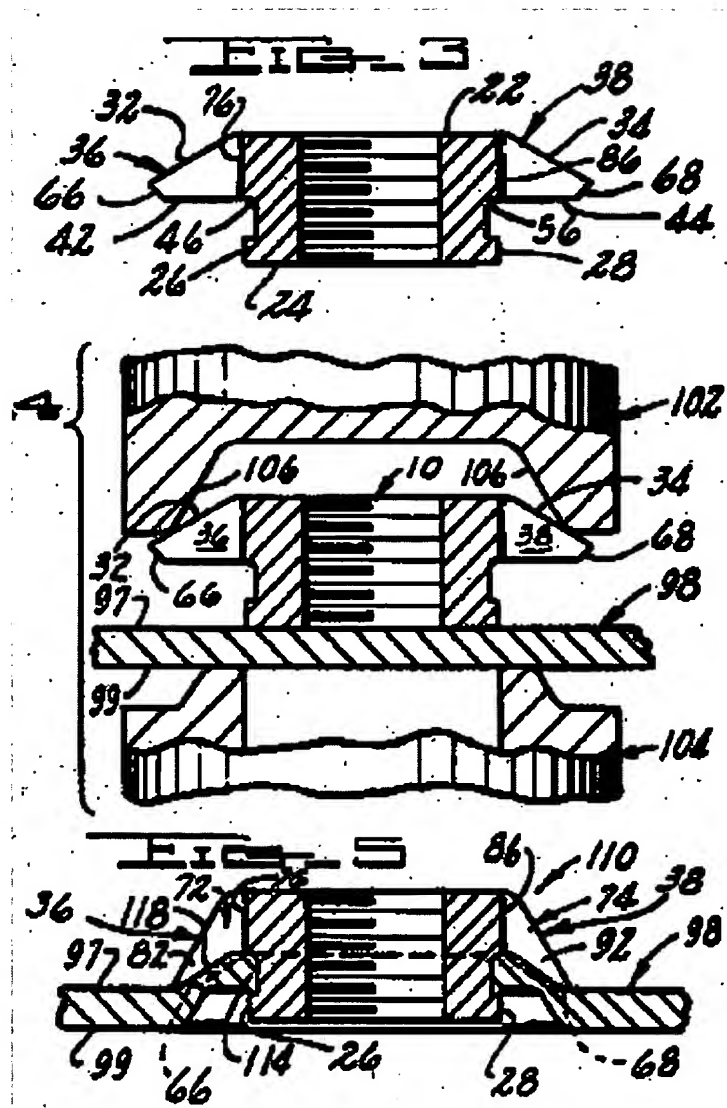
As for Claim 4, the element's 'outer peripheral portion of said radial flange portion is generally circular.'

[8] Claims 16-20 are rejected under U.S.C. 102(b) as being clearly anticipated by Double et al US-3,187,424. Double et al teach:

'a method of attaching a self-attaching female fastening element to a panel (98), said female fastener element (10) including a body portion (10) having opposed end portions (22,24) and a bore (18) extending through said body portion (10) through said opposed end portions (22,24), and a radial flange portion (36,38) integral with said body portion (10) generally midway between said opposed end portions (22,24) having an annular outer peripheral portion (36, 38,66,68), said method comprising the following steps: receiving one (24) of said end portions (22,24) of said body portion (10) of said self-attaching female fastener element through an opening in a panel (Col 3 Lines 49-50); deforming said annular outer peripheral portion of said radial flange portion towards said one of said end portions of said body portion (Col 3 Lines 50-53) thereby forming an annular groove surrounding said body portion, and deforming an annular panel portion surrounding said opening in said panel into said annular groove (Col 3 Lines 58-59).'

See Figure Below. Note that the term 'generally midway' in Claim 16 Line 4 does not require the flange to be midway between the opposed ends. Also, note that the four peripheral flange extremities of Double et al. essentially make up an annular outer peripheral portion (seen best in Figure 6 not shown). A portion of an annular entity does not necessarily have to be continuous.





US-3,187,424 Double et al Figures 3-5

[9] As for Claim 17, the 'annular outer peripheral portion of the radial flange portion (36,38,66,68) includes inwardly radially tapered surfaces (66,68)', which are deformed 'toward said one (24) of said end portions (22,24) of said body portion (10) until said inwardly radially tapered surface (66,68) adjacent said one (24) of said end portions (22,24) of said body portion (10) extends generally perpendicular to a longitudinal axis of said bore (18), thereby forming an annular bearing surface supporting said panel (98)'. Column 3 Lines 63-66 of

Double et al describe this method of deforming a tapered flange so that the taper is in contact with a panel surface, roughly perpendicular to the longitudinal axis of the bore. The contact area between the tapered surfaces and the panel inherently create a bearing surface.

[10] As for Claim 20, the method taught by Double et al. 'includes driving said one end (24) of said end portions (22,24) of said body portion (10) against said panel (98) piercing said opening in said panel (98).' See Column 3, Lines 49-50.

***Claim Rejections - 35 USC § 103***

[11] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

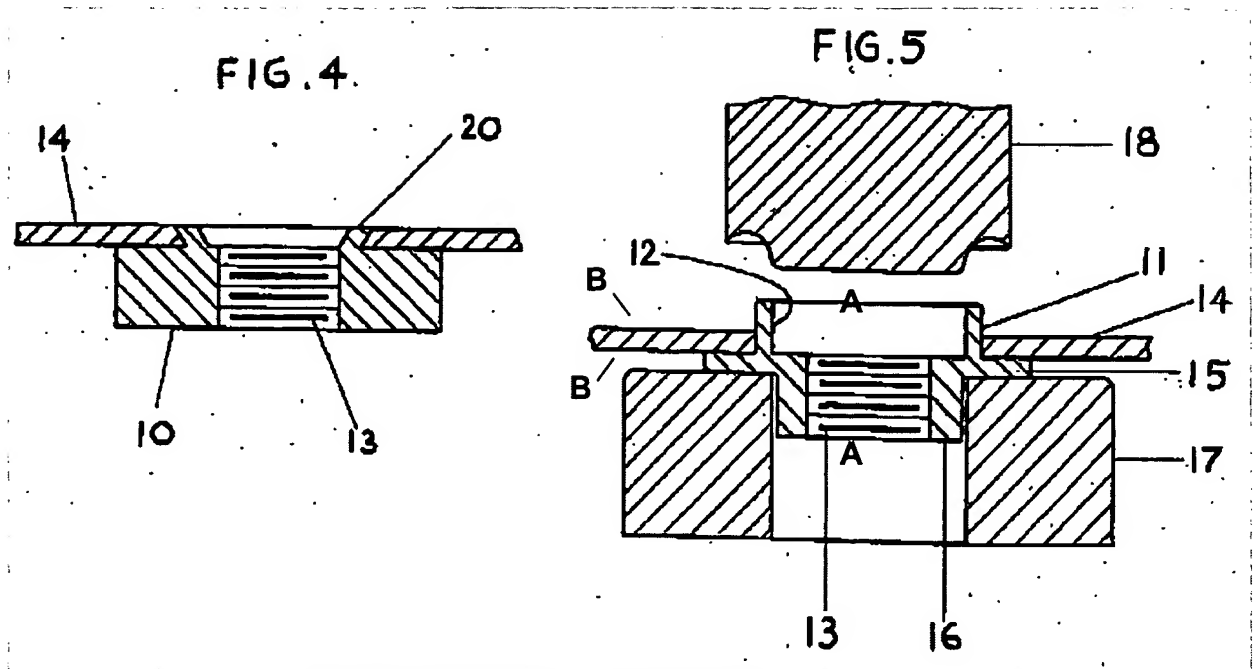
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[12] Claims 1, 2, and 4 are rejected under U.S.C. 103(a) as being unpatentable over Kann US-2,415,695 in view of Double et al. US-3,187,424.

Kann teaches a self-attaching female fastening element comprising:

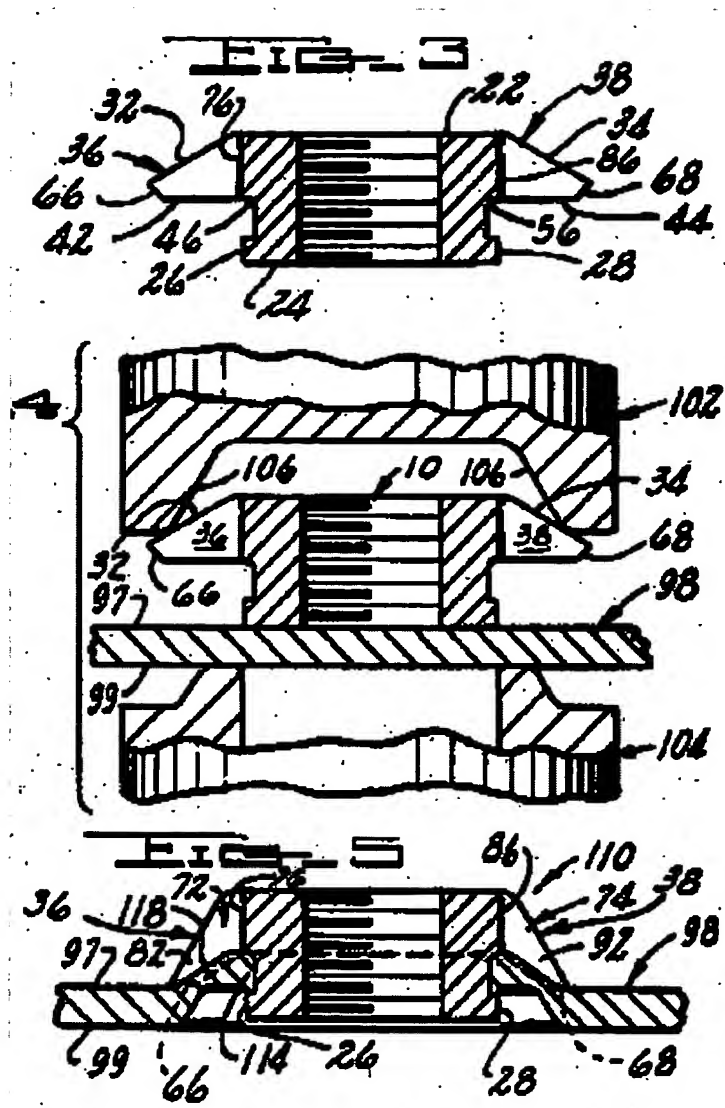
‘ a body portion (16) having opposed ends (A) and a bore (13) extending through said body portion (16) through said opposed ends (A);  
and a radial flange portion (15) integral with said body portion (16) midway between  
said opposed ends (A) having generally parallel planar annular surfaces (B) on opposed sides  
of said radial flange portion (15) surrounding said body portion (16).’

However, Kann fails to disclose ‘an inwardly tapered annular outer peripheral portion’ on the radial flange portion (15).



US-2,415,695 Kann Figures 4 and 5

Double et al teach 'an inwardly tapered annular outer peripheral portion' on a radial flange for the purpose of providing a bearing surface after the flange is deformed towards a panel surface.



US-3,187,424 Double et al Figures 3-5

At the time of invention, it would have been obvious to one ordinarily skilled in the art, to modify the fastener taught by Kann, to include 'an inwardly tapered annular outer peripheral portion' taught by Double et al. in order to provide a bearing surface roughly perpendicular to the axis of the bore, after the flange is deformed towards a panel surface.

[13] As for Claim 2, the fastener element taught by Kann is 'symmetrical about a plane perpendicular to a longitudinal axis of said bore'.

As for Claim 4, the fastener element flange taught by Kann has a 'generally circular' outer peripheral portion.

*Allowable Subject Matter*

[14] Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant is urged to clarify the term 'outer surfaces' in Claim 3 Line 2, by indicating that they circumscribe the 'opposed ends' for the purpose of piercing and/or clinching a panel surface. See section 5, paragraph 3 of this office action.

[15] Claims 5-8 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In conventional clinch-type female fasteners, similar grooves appear on only *one* side of a radial flange portion (Duran et al US-6,595,734, Grimm et al US-3,133,579, Capuano US-4,432,681); however, conventional clinch-type female fasteners do not teach grooves on *both* sides of a radial flange portion.

[16] Claims 9-15 are allowable, as the independent Claim 9 requires radially outwardly inclined generally frustoconical surfaces on *both* opposed end portions, therefore distinguishing the claimed limitations from asymmetrical prior art having only a single radially outwardly inclined generally frustoconical surface on *one* side. The 'generally frustoconical surfaces are

interpreted consistent with the instant specification and drawings (See section 5 paragraph 3 of this office action).

[17] Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The method claim requires the use of a fastener having radially outwardly inclined surfaces at *both* opposed end portions, therefore distinguishing it from prior art methods using asymmetrical fasteners having a radially outwardly inclined surface on only *one* side. The term 'radially outwardly inclined surface' is interpreted consistent with the instant specification and drawings (See section 5 paragraph 3 of this office action).

[18] Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. It is understood that *both* generally parallel surfaces on the integral radial flange portion have radial grooves, therefore distinguishing it from similar methods, which use conventional asymmetrical clinch-type fasteners having radial grooves on only one side. It is to be noted that such parallel surfaces are interpreted as being located on opposing sides of the radial flange portion – consistent with the instant specification.

### ***Conclusion***

Claims 9-15 are allowable.

Claims 1-8, and 16-20 are pending.

[19] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Art Unit: 3677

US-2,968,713 Harper teaches method of symmetry for eliminating orientation step of flanged elements in automated hopper systems.

US-6595734 Duran et al. teach similar grooves on a tapered radial flange.

US-4,432,681 Capuano teaches similar grooves on a tapered radial flange.

US-3,133,579 Grimm et al. teach similar grooves on a tapered radial flange.

US-3,213,914 Baumle et al teach an identical structure to that of the instant Claims 1,2, and 4. Note that the flange is integral with the body portion midway between opposed ends, and that there is a chamfer, i.e., an inwardly tapered annular outer peripheral portion on the flange.

US-6,146,076 Bodin teaches a female fastener having flange midway.

US-3,736,969 Warn et al teach a one-sided pierce nut.

US-1,579,875 Lundberg teaches a similar one-sided clinch nut having one frustoconical surface

US-3,170,701 Hoover teaches a sealing washer with similar structure.

US-2,591,631 Stanitski teaches a symmetrical female fastener with flange midway between opposed ends.

US-158,259 Dulin teaches a symmetrical coupling with similar structure.

US-2,679,880 Poupitch teaches a one-sided clinch nut.

US-2,329,935 Nowak et al teach a symmetrical female fastener similar in structure.

US-5,888,012 Nygren, Jr. et al teach an identical structure to that of the instant Claims 1, 2, and 4.

US-4,431,353 Capuano teaches a similar fastener.

US-5,085,550 Kendrick teaches a one-sided fastener.

US-4,809,437 Saliaris teaches a structure having structural elements of the instant Claims 1, 2, and 4.

[20] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (703) 305-2693. The examiner can normally be reached on 7:30 am - 5:00 pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (703) 306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
ROBERT J. SANDY  
PRIMARY EXAMINER